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THE

ONTARIO WATER RESOURCES

COMMISSION

REPORT ON

WATER POLLUTION SURVEY

TOWNSHIP OF INNISFIL

COUNTY OF SIMCOE

MARCH 1964

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**1964**

Report on water pollution  
survey, township of Innisfil,  
county of Simcoe.

80771

Report on

WATER POLLUTION SURVEY

T O W N S H I P   O F   I N N I S F I L

County of Simcoe

March 1964

The Division of Sanitary Engineering

## INTRODUCTION

A survey was made to assess the sanitary conditions of the watercourses providing drainage for the Township of Innisfil.

Surveys of this nature are made by the Ontario Water Resources Commission and are designed to locate any existing or potential sources of pollution.

Recommendations are made with reference to pollution abatement and prevention. When water and sewage treatment works appear desirable, the Commission has a programme to aid in the construction and financing of these works.

## GENERAL INFORMATION

The Township of Innisfil with a population of approximately 7,122, is bounded on the north by Kempenfelt Bay and on the east by Lake Simcoe and Cook Bay. While the township is primarily rural in nature, a strip of summer cottage developments exists along the lakeshore and bay front. The number of cottages in the municipality was estimated at 4,300.

The municipal offices are located in the Community of Stroud.

A water works system serves the Holiday Acres Subdivision which is mainly a summer cottage development. Domestic sewage in the township is generally disposed of by means of private septic tank systems with the exception of

sewage from the British American Oil Company Limited premises. The system serving this B.A. service station and the associated restaurant is described later in this report under a separate heading.

The installation of private sewage disposal systems is inspected by the staff of the Simcoe County Health Unit, but inspections with respect to plumbing have not commenced in the township.

#### BRITISH AMERICAN OIL CO. LTD.

A water pollution control plant (WPCP) serves the B.A. service station and associated eating establishment located at the intersection of Highway Nos. 400 and 89. This plant operates on the extended aeration or total oxidation modification of the activated sludge process.

Briefly, the details of the plant are described as follows:

Design Capacity .....	gpd .....	20,000
Treatment .....	comminution, aeration, sedimentation, seasonal chlorination	
Receiving Stream .....	Innisfil Creek (tributary of Nottawasaga River)	

## Flow Treatment Data- 1963

Average Daily Flow .....	gpd .....	7,342*
Average 5-day BOD of final effluent .....	ppm .....	26.4**
Average suspended solids of final effluent .....	ppm .....	33.0**
Average BOD reduction .....	% .....	90.1***
Average suspended solids removal .....	% .....	92.6***

\* This figure is based on the water pumpages of the water supply system for 1963, excluding the month of June.

\*\* These figures are based on the analyses of 7 samples.

\*\*\* These figures are based on the analyses of 4 samples.

### Comments

The biochemical oxygen demand and suspended solids contents of the final effluent, 26.4 ppm and 33.0 ppm respectively, are considerably higher than the Commission's objective maximum of 15 ppm.

To improve the existing treatment, it is proposed to extend the present facilities by constructing a lagoon to treat the effluent from the existing treatment works. It is anticipated that construction of the lagoon will be initiated in the spring of 1964.

It was recommended by the OWRC in a report dated November 18, 1963, that until such times as the proposed lagoon has been constructed and is operating, the effluent should be chlorinated on a year-round basis.

#### DRAINAGE

There are a number of minor watercourses penetrating inland from the shoreline bordering the township. The largest of these is Whiskey Creek which rises south-west of Stroud and empties into Kempenfelt Bay north of Painswick.

Drainage for the north-west corner and south-west section of the municipality is provided by Bear Creek and Innisfil Creek respectively. These creeks are tributaries of the Nottawasaga River.

#### REFUSE DISPOSAL

There is one municipal refuse disposal site which is located on the south side of the 10th Line, approximately 3.7 miles east of Stroud.

The sanitary landfill method of garbage disposal is employed here on a modified basis.

In the areas developed with permanent residences and summer cottages, garbage is collected by the township twice weekly in July and August. A weekly collection service is provided during the remainder of the year.



### Comments

Due to remoteness from a watercourse, this site is not expected to become a source of water pollution.

### INDUSTRY

With the exception of farming, industrial activities in Innisfil are minimal. The only waste-producing establishment is described as follows:

#### Dermott's Slaughter-house

Mr.W.Dermott of Cookstown operates a slaughter-house which is located on the north side of Highway No.89, approximately midway between Cookstown and Highway No.400.

This plant is engaged in custom killing and cutting. Animals are normally slaughtered on Tuesdays.

#### Disposal of Wastes

The greater portion of the blood is collected in a floor trap inside the premises. Some of the blood is picked up by individuals for sausage-making and the remainder is reportedly buried.

Floor and equipment washings are discharged to a septic tank system located immediately east of the killing room. The entrails are hauled away to a plant in Orillia and the paunch manure is piled at the rear of the building.

The waste disposal system was reported to function satisfactorily.

### Comments

Under the present circumstances, this plant is considered sufficiently isolated from a watercourse to avoid pollution.

### BIG BAY POINT MARINA LIMITED

Construction of a marina near Big Bay Point consisting of slips for approximately 300 cruisers and houseboats commenced in 1963.

Concern was expressed to the Commission by a neighbouring property owner that pollution of surface water would occur as a result of this marina unless strict precautions were taken and close supervision was maintained.

The Commission sampled the lake water adjacent to the marina in 1963 when it was under construction and consequently any future changes in the quality of the water can be determined.

### ANALYSES OF SAMPLES

The laboratory results of bacteriological examinations and chemical analyses of samples collected from the watercourses providing drainage for the Township of Innisfil are included in Table I which is appended to this report.

All of the examinations and analyses were performed at the Ontario Water Resources Commission laboratory in Toronto.

A plan of the township showing the approximate locations of the sampling points and other pertinent information is enclosed at the back of this report.

#### Significance of Laboratory Results

The OWRC objectives for surface water in Ontario are as follows:

5-day Biochemical Oxygen Demand (BOD) -  
not greater than 4 ppm

Membrane Filter (MF) Coliform Count -  
not greater than 2,400 coliforms/100ml

#### Comments

The laboratory results of tests performed on samples collected from Innisfil and Whiskey Creeks were satisfactory.

#### SUMMARY

A survey to locate and record all existing or potential sources of water pollution in the Township of Innisfil was made in March 1964.

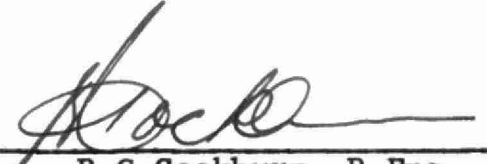
Aside from the water pollution control plant serving the B.A. Oil Company Limited, no specific sources of pollution were found at the time of the survey. Improvements to the existing sewage treatment facilities serving this station and

the associated eating establishment are planned for 1964.


A further examination of the water adjacent to the new marina mentioned in this report will be made by the Ontario Water Resources Commission.

All of which is respectfully submitted,

District Engineer:

  
P.G. Cockburn, P.Eng.

Approved by:

  
K.H. Sharpe, Director

Prepared by:  
P.J. Walsh

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TABLE 1

SAMPLING POINT NO.	LOCATION	DATE EXAMINED	COLIFORMS PER 100 ML MF	5-DAY BOD	SOLIDS			TURBIDITY
					TOTAL	SUSP.	DISS.	
NTF - 64.1	INNISFIL CREEK AT ROAD IMMEDIATELY UPSTREAM FROM BRITISH AMERICAN OIL CO. LTD. WATER POLLUTION CONTROL PLANT (WPCP)	JULY 12/61	630	2.0	340	-	-	4.0
		OCT. 16/62	102	1.8	454	-	-	2.6
		MAY 22/63	1,250	2.1	338	-	-	1.1
NTF- 64.1(T)	B.A. WPCP EFFLUENT	JULY 12/61	800,000	30	492	28	464	-
		OCT. 16/62	140,000	25	772	35	737	30
		MAY 22/63	880,000	49	732	41	691	-
NTF- 63.7	INNISFIL CREEK AT HWY. #89 WEST OF HWY. #400	JULY 12/61	790	2.3	414	-	-	4.0
		OCT. 16/62	2,100	1.8	420	-	-	12
		MAY 22/63	910	2.6	358	-	-	6.0
WH- 6.0	WHISKEY CREEK AT 8TH LINE	JULY 15/60	240	8	296	38	258	-
WH- 4.8	WHISKEY CREEK AT 9TH LINE	JULY 15/60	630	9	298	28	270	-
WH- 4.0	WHISKEY CREEK AT 10TH LINE	JULY 15/60	320	4.2	232	-	-	3
WH- 3.2	WHISKEY CREEK AT 11TH LINE	JULY 15/60	117	1.8	224	-	-	2
WH- 2.3	WHISKEY CREEK AT 12TH LINE	JULY 15/60	89	3.2	246	-	-	2
WH- 1.3	WHISKEY CREEK AT 13TH LINE	JULY 15/60	71	3.8	200	-	-	2
WH- 1.1	WHISKEY CREEK AT HWY. #11	JULY 15/60	138	3.3	224	-	-	2
WH- 0.6	WHISKEY CREEK AT CNR BRIDGE	JULY 15/60	84	2.0	160	-	-	3
WH- 0.4	WHISKEY CREEK AT TOLLENDAL RD.	JULY 15/60	82	1.3	216	-	-	3
WH- 0.1	WHISKEY CREEK AT KEMPENFELT BAY	JULY 15/60	1,300	5.1	200	-	-	3

ALL ANALYSES EXCEPT PH REPORTED IN PPM  
UNLESS OTHERWISE INDICATED